State of Utah

DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF AIR QUALITY

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Title V Operating Permit

PERMIT NUMBER: 4300004001 DATE OF PERMIT: October 26, 2000 Date of Last Revision: October 26, 2000

This Operating Permit is issued to, and applies to the following:

Name of Permittee:Permitted Location:Merit Energy CompanyBridger Lake Plant12222 Merit Dr.T3N, R14E, Sec. 25Suite 1500Manila, UT 84046

UTM coordinates: 4534720 meters Northing, 558055 meters Easting

SIC code: 1321

Dallas, TX 75251-0000

ABSTRACT

The Bridger Lake Plant receives, compresses, and processes wellhead gas into pipeline natural gas and natural gas liquids. The plant includes eight compressors, seven heaters, a cryogenic plant, and various storage tanks. Over half of the emission units were in existence prior to November 29, 1969, and were not required to submit a notice of intent or have an approval order. All combustion sources are fired on natural gas. The Bridger Lake Plant is a major source of NO_x and CO.

UTAH AIR QUALITY BOARD	
By:	Prepared By:
Richard W. Sprott, Acting Executive Secretary	Dave Hansell

Operating Permit History

10/26/2000 - Permit issued	Action initiated by an initial	
	operating permit application	

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Issued under authority of Utah Code Ann. Section 19-2-104 and 19-2-109.1, and in accordance with Utah Administrative Code R307-415 Operating Permit Requirements.

All definitions, terms and abbreviations used in this permit conform to those used in Utah Administrative Code R307-101 and R307-415 (Rules), and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the Rules.

Where a permit condition in Section I, General Provisions, partially recites or summarizes an applicable rule, the full text of the applicable portion of the rule shall govern interpretations of the requirements of the rule. In the case of a conflict between the Rules and the permit terms and conditions of Section II, Special Provisions, the permit terms and conditions of Section II shall govern except as noted in Provision I.M, Permit Shield.

Section I: GENERAL PROVISIONS

I.A. Federal Enforcement.

All terms and conditions in this permit, including those provisions designed to limit the potential to emit, are enforceable by the EPA and citizens under the Clean Air Act of 1990 (CAA) except those terms and conditions that are specifically designated as "State Requirements". (R307-415-6b)

I.B. Permitted Activity(ies).

Except as provided in R307-415-7b(1), the permittee may not operate except in compliance with this permit. (See also Provision I.E, Application Shield)

I.C. **Duty to Comply.**

- I.C.1 The permittee must comply with all conditions of the operating permit. Any permit noncompliance constitutes a violation of the Air Conservation Act and is grounds for any of the following: enforcement action; permit termination; revocation and reissuance; modification; or denial of a permit renewal application. (R307-415-6a(6)(a))
- I.C.2 It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (R307-415-6a(6)(b))
- I.C.3 The permittee shall furnish to the Executive Secretary, within a reasonable time, any information that the Executive Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Executive Secretary copies of records required to be kept by this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the EPA along with a claim of confidentiality. (R307-415-6a(6)(e))

I.C.4 This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance shall not stay any permit condition, except as provided under R307-415-7f(1) for minor permit modifications. (R307-415-6a(6)(c))

I.D. Permit Expiration and Renewal.

- I.D.1 This permit is issued for a fixed term of five years and expires on October 26, 2005. (R307-415-6a(2))
- I.D.2 Application for renewal of this permit is due by April 26, 2005. An application may be submitted early for any reason. (R307-415-5a(1)(c))
- I.D.3 An application for renewal submitted after the due date listed in I.D.2 above shall be accepted for processing, but shall not be considered a timely application and shall not relieve the permittee of any enforcement actions resulting from submitting a late application. (R307-415-5a(5))
- I.D.4 Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted consistent with R307-415-7b (see also Provision I.E, Application Shield) and R307-415-5a(1)(c) (see also Provision I.D.2). (R307-415-7c(2))

I.E. Application Shield.

If the permittee submits a timely and complete application for renewal, the permittee's failure to have an operating permit will not be a violation of R307-415, until the Executive Secretary takes final action on the permit renewal application. In such case, the terms and conditions of this permit shall remain in force until permit renewal or denial. This protection shall cease to apply if, subsequent to the completeness determination required pursuant to R307-415-7a(3), and as required by R307-415-5a(2), the applicant fails to submit by the deadline specified in writing by the Executive Secretary any additional information identified as being needed to process the application. (R307-415-7b(2))

I.F. Severability.

In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force. (R307-415-6a(5))

I.G. **Permit Fee.**

- I.G.1 The permittee shall pay an annual emission fee to the Executive Secretary consistent with R307-415-9. (R307-415-6a(7))
- I.G.2 The emission fee shall be due on October 1 of each calendar year or 45 days after the source receives notice of the amount of the fee, whichever is later. (R307-415-9(4)(a))

I.H. No Property Rights.

This permit does not convey any property rights of any sort, or any exclusive privilege. (R307-415-6a(6)(d))

I.I. Revision Exception.

No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit. (R307-415-6a(8))

I.J. Inspection and Entry.

- I.J.1 Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Executive Secretary or an authorized representative to perform any of the following:
- I.J.1.a Enter upon the permittee's premises where the source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit. (R307-415-6c(2)(a))
- I.J.1.b Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit. (R307-415-6c(2)(b))
- I.J.1.c Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practice, or operation regulated or required under this permit.

 (R307-415-6c(2)(c))
- I.J.1.d Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with this permit or applicable requirements. (R307-415-6c(2)(d))
- I.J.2 Any claims of confidentiality made on the information obtained during an inspection shall be made pursuant to Utah Code Ann. Section 19-1-306. (R307-415-6c(2)(e))

I.K. Certification.

Any application form, report, or compliance certification submitted pursuant to this permit shall contain certification as to its truth, accuracy, and completeness, by a responsible official as defined in R307-415-3. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. (R307-415-5d)

I.L. Compliance Certification.

I.L.1 Permittee shall submit to the Executive Secretary an annual compliance certification, certifying compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall be submitted no later than October 26, 2001

and that date each year following until this permit expires. The certification shall include all the following (permittee may cross-reference this permit or previous reports): (R307-415-6c(5))

- I.L.1.a The identification of each term or condition of this permit that is the basis of the certification;
- I.L.1.b The identification of the methods or other means used by the permittee for determining the compliance status with each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. Such methods and other means shall include, at a minimum, the monitoring and related recordkeeping and reporting requirements in this permit. If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information;
- I.L.1.c The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the method or means designated in Provision I.L.1.b. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred; and
- I.L.1.d Such other facts as the Executive Secretary may require to determine the compliance status.
- I.L.2 The permittee shall also submit all compliance certifications to the EPA, Region VIII, at the following address or to such other address as may be required by the Executive Secretary: (R307-415-6c(5)(d))

Office of Enforcement, Compliance and Environmental Justice (mail code 8ENF)
EPA, Region VIII
999 18th Street, Suite 300
Denver, CO 80202-2466

I.M. Permit Shield.

- I.M.1 Compliance with the provisions of this permit shall be deemed compliance with any applicable requirements as of the date of this permit, provided that:
- I.M.1.a Such applicable requirements are included and are specifically identified in this permit, or (R307-415-6f(1)(a))
- I.M.1.b Those requirements not applicable to the source are specifically identified and listed in this permit. (R307-415-6f(1)(b))
- I.M.2 Nothing in this permit shall alter or affect any of the following:

- I.M.2.a The emergency provisions of Utah Code Ann. Section 19-1-202 and Section 19-2-112, and the provisions of the CAA Section 303. (R307-415-6f(3)(a))
- I.M.2.b The liability of the owner or operator of the source for any violation of applicable requirements under Utah Code Ann. Section 19-2-107(2)(g) and Section 19-2-110 prior to or at the time of issuance of this permit. (R307-415-6f(3)(b))
- I.M.2.c The applicable requirements of the Acid Rain Program, consistent with the CAA Section 408(a). (R307-415-6f(3)(c))
- I.M.2.d The ability of the Executive Secretary to obtain information from the source under Utah Code Ann. Section 19-2-120, and the ability of the EPA to obtain information from the source under the CAA Section 114. (R307-415-6f(3)(d))

I.N. **Emergency Provision.**

- I.N.1 An "emergency" is any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. (R307-415-6g(1))
- I.N.2 An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the affirmative defense is demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
- I.N.2.a An emergency occurred and the permittee can identify the causes of the emergency. (R307-415-6g(3)(a))
- I.N.2.b The permitted facility was at the time being properly operated. (R307-415-6g(3)(b))
- I.N.2.c During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in this permit. (R307-415-6g(3)(c))
- I.N.2.d The permittee submitted notice of the emergency to the Executive Secretary within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirement of Provision I.S.2.c below. (R307-415-6g(3)(d))
- I.N.3 In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. (R307-415-6g(4))
- I.N.4 This emergency provision is in addition to any emergency or upset provision contained in any other section of this permit. (R307-415-6g(5))

I.O. Operational Flexibility.

Operational flexibility is governed by R307-415-7d(1).

I.P. Off-permit Changes.

Off-permit changes are governed by R307-415-7d(2).

I.Q. Administrative Permit Amendments.

Administrative permit amendments are governed by R307-415-7e.

I.R. **Permit Modifications.**

Permit modifications are governed by R307-415-7f.

I.S. Records and Reporting.

I.S.1 Records.

- I.S.1.a The records of all required monitoring data and support information shall be retained by the permittee for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-charts or appropriate recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. (R307-415-6a(3)(b)(ii)
- I.S.1.b For all monitoring requirements described in Section II, Special Provisions, the source shall record the following information, where applicable: (R307-415-6a(3)(b)(i))
- I.S.1.b.1 The date, place as defined in this permit, and time of sampling or measurement.
- I.S.1.b.2 The date analyses were performed.
- I.S.1.b.3 The company or entity that performed the analyses.
- I.S.1.b.4 The analytical techniques or methods used.
- I.S.1.b.5 The results of such analyses.
- I.S.1.b.6 The operating conditions as existing at the time of sampling or measurement.
- I.S.1.c Additional record keeping requirements, if any, are described in Section II, Special Provisions.
- I.S.2 Reports.

- I.S.2.a Monitoring reports shall be submitted to the Executive Secretary every six months, or more frequently if specified in Section II. All instances of deviation from permit requirements shall be clearly identified in the reports. (R307-415-6a(3)(c)(i))
- I.S.2.b All reports submitted pursuant to Provision I.S.2.a shall be certified by a responsible official in accordance with Provision I.K of this permit. (R307-415-6a(3)(c)(i)
- I.S.2.c The Executive Secretary shall be notified promptly of any deviations from permit requirements including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken.

 Prompt, as used in this condition, shall be defined as written notification within 7 days.

 Deviations from permit requirements due to unavoidable breakdowns shall be reported in accordance with the provisions of R307-107. (R307-415-6a(3)(c)(ii))
- I.S.3 Notification Addresses.
- I.S.3.a All reports, notifications, or other submissions required by this permit to be submitted to the Executive Secretary are to be sent to the following address or to such other address as may be required by the Executive Secretary:

Utah Division of Air Quality P.O. Box 144820 Salt Lake City, UT 84114-4820

Phone: 801-536-4000

I.S.3.b All reports, notifications or other submissions required by this permit to be submitted to the EPA should be sent to one of the following addresses or to such other address as may be required by the Executive Secretary:

For annual compliance certifications

<u>For reports, notifications, or other</u> <u>correspondence related to permit modifications, applications, etc.</u>

Environmental Protection Agency, Region VIII Office of Enforcement, Compliance and Environmental Justice (mail code 8ENF) 999 18th Street, Suite 300 Denver, CO 80202-2466

Environmental Protection Agency, Region VIII Office of Partnerships & Regulatory Assistance Air & Radiation Program (mail code 8P-AR) 999 18th Street, Suite 300 Denver, CO 80202-2466

Phone: 303-312-6440

- I.T. Reopening for Cause.
- I.T.1 A permit shall be reopened and revised under any of the following circumstances:
- I.T.1.a New applicable requirements become applicable to the permittee and there is a remaining permit term of three or more years. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless the terms and

conditions of this permit have been extended pursuant to R307-415-7c(3), application shield. (R307-415-7g(1)(a))

- I.T.1.b The Executive Secretary or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit. (R307-415-7g(1)(c))
- I.T.1.c EPA or the Executive Secretary determines that this permit must be revised or revoked to assure compliance with applicable requirements. (R307-415-7g(1)(d))
- I.T.1.d Additional applicable requirements are to become effective before the renewal date of this permit and are in conflict with existing permit conditions. (R307-415-7g(1)(e))
- I.T.2 Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists.

 (R307-415-7g(2))

I.U. Inventory Requirements.

- I.U.1 An emission inventory shall be submitted in accordance with the procedures of R307-150, Emission Inventories. (R307-150)
- I.U.2 A Hazardous Air Pollutant Inventory shall be submitted in accordance with the procedures of R307-155, Hazardous Air Pollutant Inventory. (R307-155)

Section II: SPECIAL PROVISIONS

II.A. Emission Unit(s) Permitted to Discharge Air Contaminants.

(R307-415-4(3)(a) and R307-415-4(4))

II.A.1 **Best Available Control Technology Units** (designated as BACT)

Unit Description: Emission units that were not in existence prior to November 29, 1969, and emission units that have made modifications or relocations since November 29, 1969. These emission units include C9, C10, C11, P1, and H1.

II.A.2 **Cryogenic Plant** (designated as P1)

Unit Description: A 50 MMscf/d cryogenic plant relocated to Utah in 1987 which includes molecular sieve dehydrators, gas/gas heat exchanger, turbo-expander, and deethanizing column.

II.A.3 **Compressor 1** (designated as C1)

Unit Description: Pre-November 29, 1969, compressor for inlet field gas, approx. 473-hp, fired on natural gas. No unit-specific applicable requirements.

II.A.4 Compressor 2 (designated as C2)

Unit Description: Pre-November 29, 1969, compressor for reinjection of field gas, approx. 473-hp, fired on natural gas. No unit-specific applicable requirements.

II.A.5 **Compressor 3** (designated as C3)

Unit Description: Pre-November 29, 1969, compressor for reinjection of field gas, approx. 473-hp, fired on natural gas. No unit-specific applicable requirements.

II.A.6 **Compressor 4** (designated as C4)

Unit Description: Pre-November 29, 1969, compressor for reinjection of field gas, approx. 473-hp, fired on natural gas. No unit-specific applicable requirements.

II.A.7 **Compressor 8** (designated as C8)

Unit Description: Pre-November 29, 1969, compressor for recycle of field gas to molecular sieve dehydrator, approx. 473-hp, fired on natural gas. No unit-specific applicable requirements.

II.A.8 **Compressor 9** (designated as C9)

Unit Description: Compressor for inlet field gas, approx. 473-hp, fired on natural gas equipped with a catalytic converter and air/fuel controller.

II.A.9 **Compressor 10** (designated as C10)

Unit Description: Compressor for sales gas, approx. 1180-hp, fired on natural gas equipped with a catalytic converter and air/fuel controller.

II.A.10 **Compressor 11** (designated as C11)

Unit Description: Compressor for sales gas, approx. 885-hp, fired on natural gas equipped with a catalytic converter and air/fuel controller.

II.A.11 **Regeneration Heater** (designated as H1)

Unit Description: Natural gas-fired, regeneration heater is rated at approx. 3 MMBtu/hr and provides heat to molecular sieve dehydrator.

II.A.12 **Stabilizer Heater** (designated as H2)

Unit Description: Pre-November 29, 1969, natural gas-fired, stabilizer heater is rated at approx. 0.9 MMBtu/hr.

II.A.13 **Glycol (Space) Heater** (designated as H3)

Unit Description: Pre-November 29, 1969, natural gas-fired, glycol (space) heater is rated at approx. 0.48 MMBtu/hr.

II.A.14 **Production Heater Treater** (designated as H4)

Unit Description: Pre-November 29, 1969, natural gas-fired, production heater treater is rated at approx. 1 MMBtu/hr.

II.A.15 **Test Heater Treater** (designated as H5)

Unit Description: Pre-November 29, 1969, natural gas-fired, test heater treater is rated at approx. 1 MMBtu/hr.

II.A.16 Line Heater (designated as H6)

Unit Description: Pre-November 29, 1969, natural gas-fired, line heater is rated at approx. 1 MMBtu/hr.

II.A.17 **Inlet Crude Heater** (designated as H7)

Unit Description: Pre-November 29, 1969, natural gas-fired, inlet crude heater is rated at approx. 1 MMBtu/hr.

II.A.18 Crude Oil Storage Tank 1 (designated as T1)

Unit Description: Pre-November 29, 1969, approx. 750 bbl crude oil storage tank. No unit-specific applicable requirements.

II.A.19 Crude Oil Storage Tank 2 (designated as T2)

Unit Description: Pre-November 29, 1969, approx. 3000 bbl crude oil storage tank. No unit-specific applicable requirements.

II.A.20 Crude Oil Storage Tank 3 (designated as T3)

Unit Description: Pre-November 29, 1969, approx. 500 bbl crude oil storage tank. No unit-specific applicable requirements.

II.B. Requirements and limitations.

The following emission limitations, standards, and operational limitations apply to the permitted facility as indicated: (R307-415-6a(1))

II.B.1 <u>Conditions on permitted source (Source-wide):</u>

II.B.1.a A Risk Management Plan (RMP) developed in accordance with 40 CFR Part 68 shall be submitted to the United States Environmental Protection Agency not later than the applicable date in 40 CFR 68.10(a). [Authority granted under 40 CFR 68; condition originated in 40 CFR 68]

II.B.1.a.1 Monitoring: A copy of the Risk Management Plan shall be available upon request along

with a copy of the transmittal letter to EPA.

II.B.1.a.2 **Recordkeeping**: A copy of the Risk Management Plan shall be available to the Executive

Secretary upon request along with a copy of the transmittal letter to EPA.

II.B.1.a.3 **Reporting**: There are no reporting requirements for this provision except those

specified in Section I of this permit.

II.B.2 Conditions on Best Available Control Technology Units (BACT):

II.B.2.a The affected emission units shall be adequately and properly maintained. Instructions from the vendor or established maintenance practices that maximize pollution control shall be used. All necessary equipment control and operating devices, such as pressure gauges, amp meters, volt meters, flow-rate indicators, temperature gauges, CEMS, etc., shall be installed and operated properly and easily accessible to compliance inspectors. [Authority granted under R307-401-5; condition originated in DAQE-0220-93]

II.B.2.a.1 Monitoring: Records required for this permit condition will serve as monitoring.

II.B.2.a.2 **Recordkeeping**: Permittee shall document activities performed to assure proper operation

and maintenance. Records shall be maintained in accordance with

Provision I.S.1 of this permit.

II.B.2.a.3 **Reporting**: There are no reporting requirements for this provision except those

specified in Section I of this permit.

II.B.3 <u>Conditions on Cryogenic Plant (P1):</u>

II.B.3.a A leak detection and repair program shall be conducted for the affected emission unit following the provisions of 40 CFR 60.482-1(a), (b), (d), and 60.482-2 through 60.482-9, except as provided in 60.633 and options or requirements referencing closed vent systems with control devices and 60.482-10. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-0220-93]

II.B.3.a.1 Monitoring: Records required for this permit condition will serve as monitoring.

II.B.3.a.2 **Recordkeeping**: Records shall be maintained following the requirements of 40 CFR, Part

60.635, and as described in Section I.S.1 of this permit

II.B.3.a.3 **Reporting**: Reports shall be submitted to the Executive Secretary following the

requirements of 40 CFR, Part 60.636, and Section I of this permit

II.B.4 Conditions on Compressor 9 (C9):

II.B.4.a Emissions to the atmosphere from the affected emission unit shall not exceed the following rates and concentrations:

Carbon Monoxide (CO)

a. 3.13 lbs/hr

b. 3.0 g/bhp-hr

Nitrogen Oxides (NO_x)

a. 1.77 lbs/hr

b. 1.7 g/bhp-hr (90% conversion). [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-0220-93]

II.B.4.a.1 **Monitoring**:

(1) While the affected emission unit is operating, the permittee shall maintain the exhaust gas oxygen (O_2) content at the inlet to the catalytic converter in the range of 1000 to 5000 ppmv using an air/fuel controller. The operation of the air/fuel controller (i.e., oxygen content in the range of 1000 to 5000 ppmv) will be verified during the catalytic converter performance test as described below.

(2) The permittee shall conduct catalytic converter performance tests on the affected emission unit as follow:

- (a) Sample location. The exhaust gas O_2 concentration shall be measured before the catalytic converter. The exhaust gas CO concentration shall be measured after the catalytic converter. Exhaust gas NO_x concentrations shall be measured before and after the catalytic converter. The sample locations before and after catalytic converter shall be placed in accordance with 40 CFR 60, Appendix A, Method 1.
- (b) Frequency. O_2 , CO, and NO_x concentrations at the above sample locations shall be measured quarterly or after 1500 hours of operation since the last required catalytic converter performance test, whichever period is longer. Hours of operation shall be determined by the use of an hour meter.
- (c) Test Condition. The catalytic converter performance test shall be conducted while the affected unit is operated under normal conditions and at a minimum of 90% of the maximum load achieved since the last required catalytic converter performance test.
- (d) Method. The O_2 , CO and NO_x concentrations expressed in ppmv shall be measured using portable analyzers and/or testing instruments capable of detecting emissions of O_2 , CO and NO_x at concentrations necessary to determine compliance. A hot air probe or equivalent shall be used to prevent errors in the results due to high exhaust gas temperatures.
- (e) Calculations. The percent conversion of NO_x shall be calculated as follows:
- % Conversion=100*(Inlet NO_x Concentration-Outlet NO_x Concentration)/Inlet NO_x Concentration

If the CO concentration is greater than 800 ppmv and/or the percent conversion of NO_x is less than 90%, the permittee shall evaluate compliance with the NO_x and CO emission limitations by calculating NO_x and CO emission rates expressed in lbs/hr and NO_x and CO emission factors expressed in g/bhp-hr. The calculations shall be based on the measured O_2 , CO and NO_x concentrations and the calculation procedures provided in the test protocol described below. If the percent conversion is less than 90%, the converter catalyst shall be either cleaned or replaced.

- (f) Test Protocol. A testing protocol shall be developed, documented, and used for all tests. At a minimum, the following topics shall be addressed in the protocol:
- (f.1) Description of sampling locations and sample gathering procedures that result in representative and reproducible samples,
- (f.2) Calibration and operation procedures for the analyzers,
- (f.3) Methods used to determine the horsepower, stack gas flow, temperature, and other parameters as necessary to demonstrate compliance, and
- (f.4) Calculations and other information necessary to convert the analyzer output to the units of the limitations.

The test protocol shall be made available to the Executive Secretary upon request. If the Executive Secretary determines that the protocol does not adequately address the minimum requirements listed above, or that the protocol does not provide sufficient assurance that the test results are adequate for demonstrating compliance with the limitation, the Executive Secretary may require the permittee to modify the protocol.

II.B.4.a.2 **Recordkeeping**:

Results of monitoring shall be maintained as described in Provision I.S.1 of

this permit.

II.B.4.a.3 **Reporting**:

In addition to the reporting requirements in Section I of this permit, the permittee shall submit an annual report by January 31, for the previous year. The annual report shall include the following information:

- 1) The raw test data and any trends apparent in the data for NO_x and CO_x .
- 2) Calibrations of oxygen sensors and portable monitors,
- 3) Occurrence and duration of downtime, start-up or malfunction in the operation of the engine or catalyst and corrective action taken, and
- 4) Estimation of excess emissions.

II.B.4.b Visible emissions shall be no greater than 20 percent opacity. [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-0220-93]

II.B.4.b.1 Monitoring: In lieu of monitoring via visible emission observations, fuel usage shall be

monitored to demonstrate that only pipeline-quality natural gas is used as

fuel.

II.B.4.b.2 **Recordkeeping**: Results of monitoring shall be maintained as described in Provision I.S.1 of

this permit.

II.B.4.b.3 **Reporting**: There are no reporting requirements for this provision except those

specified in Section I of this permit.

II.B.5 Conditions on Compressor 10 (C10):

II.B.5.a Emissions to the atmosphere from the affected emission unit shall not exceed the following rates and concentrations:

Carbon Monoxide (CO)

- a. 7.80 lbs/hr
- b. 3.0 g/bhp-hr

Nitrogen Oxides (NO_x)

- a. 4.42 lbs/hr
- b. 1.7 g/bhp-hr (90% conversion). [Authority granted under R307-401-6(1) [BACT]; condition originated in DAOE-0220-93]

II.B.5.a.1 **Monitoring**:

- (1) While the affected emission unit is operating, the permittee shall maintain the exhaust gas oxygen (O_2) content at the inlet to the catalytic converter in the range of 1000 to 5000 ppmv using an air/fuel controller. The operation of the air/fuel controller (i.e., oxygen content in the range of 1000 to 5000 ppmv) will be verified during the catalytic converter performance test as described below.
- (2) The permittee shall conduct catalytic converter performance tests on the affected emission unit as follow:
- (a) Sample location. The exhaust gas O_2 concentration shall be measured before the catalytic converter. The exhaust gas CO concentration shall be measured after the catalytic converter. Exhaust gas NO_x concentrations shall be measured before and after the catalytic converter. The sample locations before and after catalytic converter shall be placed in accordance with 40 CFR 60, Appendix A, Method 1.
- (b) Frequency. O_2 , CO, and NO_x concentrations at the above sample locations shall be measured quarterly or after 1500 hours of operation since the last required catalytic converter performance test, whichever period is longer. Hours of operation shall be determined by the use of an hour meter.
- (c) Test Condition. The catalytic converter performance test shall be conducted while the affected unit is operated under normal conditions and at a minimum of 90% of the maximum load achieved since the last required catalytic converter performance test.
- (d) Method. The O_2 , CO and NO_x concentrations expressed in ppmv shall be measured using portable analyzers and/or testing instruments capable of detecting emissions of O_2 , CO and NO_x at concentrations necessary to determine compliance. A hot air probe or equivalent shall be used to prevent errors in the results due to high exhaust gas temperatures.
- (e) Calculations. The percent conversion of NO_x shall be calculated as follows:
- % Conversion=100*(Inlet NO_x Concentration-Outlet NO_x Concentration)/Inlet NO_y Concentration
- If the CO concentration is greater than 800 ppmv and/or the percent conversion of NO_x is less than 90%, the permittee shall evaluate compliance with the NO_x and CO emission limitations by calculating NO_x and CO emission rates expressed in lbs/hr and NO_x and CO emission factors expressed in g/bhp-hr. The calculations shall be based on the measured O_2 , CO and NO_x concentrations and the calculation procedures provided in the test protocol described below. If the percent conversion is less than 90%, the converter catalyst shall be either cleaned or replaced.
- (f) Test Protocol. A testing protocol shall be developed, documented, and used for all tests. At a minimum, the following topics shall be addressed in the protocol:

- (f.1) Description of sampling locations and sample gathering procedures that result in representative and reproducible samples,
- (f.2) Calibration and operation procedures for the analyzers,
- (f.3) Methods used to determine the horsepower, stack gas flow, temperature, and other parameters as necessary to demonstrate compliance,
- (f.4) Calculations and other information necessary to convert the analyzer output to the units of the limitations.

The test protocol shall be made available to the Executive Secretary upon request. If the Executive Secretary determines that the protocol does not adequately address the minimum requirements listed above, or that the protocol does not provide sufficient assurance that the test results are adequate for demonstrating compliance with the limitation, the Executive Secretary may require the permittee to modify the protocol.

II.B.5.a.2 Recordkeeping: Results of monitoring shall be maintained as described in Provision I.S.1 of this permit.

II.B.5.a.3 Reporting:

In addition to the reporting requirements in Section I of this permit, the permittee shall submit an annual report by January 31, for the previous year. The annual report shall include the following information:

- The raw test data and any trends apparent in the data for NO_x and 1) CO,
- 2) Calibrations of oxygen sensors and portable monitors,
- 3) Occurrence and duration of downtime, start-up or malfunction in the operation of the engine or catalyst and corrective action taken, and
- 4) Estimation of excess emissions.

II.B.5.b Visible emissions shall be no greater than 20 percent opacity. [Authority granted under

R307-401-6(1) [BACT]; condition originated in DAQE-0220-93]

II.B.5.b.1 **Monitoring**: In lieu of monitoring via visible emission observations, fuel usage shall be

monitored to demonstrate that only pipeline-quality natural gas is used as

fuel.

II.B.5.b.2 Results of monitoring shall be maintained as described in Provision I.S.1 of Recordkeeping:

this permit.

II.B.5.b.3 There are no reporting requirements for this provision except those Reporting:

specified in Section I of this permit.

II.B.6 **Conditions on Compressor 11 (C11):**

II.B.6.a Emissions to the atmosphere from the affected emission unit shall not exceed the following rates and concentrations:

Carbon Monoxide (CO)

- a. 5.85 lbs/hr
- b. 3.0 g/bhp-hr

Nitrogen Oxides (NO_x)

- a. 3.32 lbs/hr
- b. 1.7 g/bhp-hr (90% conversion). [Authority granted under R307-401-6(1) [BACT]; condition originated in DAQE-0220-93]

II.B.6.a.1

Monitoring:

- (1) While the affected emission unit is operating, the permittee shall maintain the exhaust gas oxygen (O_2) content at the inlet to the catalytic converter in the range of 1000 to 5000 ppmv using an air/fuel controller. The operation of the air/fuel controller (i.e., oxygen content in the range of 1000 to 5000 ppmv) will be verified during the catalytic converter performance test as described below.
- (2) The permittee shall conduct catalytic converter performance tests on the affected emission unit as follow:
- (a) Sample location. The exhaust gas O_2 concentration shall be measured before the catalytic converter. The exhaust gas CO concentration shall be measured after the catalytic converter. Exhaust gas NO_x concentrations shall be measured before and after the catalytic converter. The sample locations before and after catalytic converter shall be placed in accordance with 40 CFR 60, Appendix A, Method 1.
- (b) Frequency. O_2 , CO, and NO_x concentrations at the above sample locations shall be measured quarterly or after 1500 hours of operation since the last required catalytic converter performance test, whichever period is longer. Hours of operation shall be determined by the use of an hour meter.
- (c) Test Condition. The catalytic converter performance test shall be conducted while the affected unit is operated under normal conditions and at a minimum of 90% of the maximum load achieved since the last required catalytic converter performance test.
- (d) Method. The O_2 , CO and NO_x concentrations expressed in ppmv shall be measured using portable analyzers and/or testing instruments capable of detecting emissions of O_2 , CO and NO_x at concentrations necessary to determine compliance. A hot air probe or equivalent shall be used to prevent errors in the results due to high exhaust gas temperatures.
- (e) Calculations. The percent conversion of NO_x shall be calculated as follows:
- % Conversion=100*(Inlet NO_x Concentration-Outlet NO_x Concentration)/Inlet NO_x Concentration

If the CO concentration is greater than 800 ppmv and/or the percent conversion of NO_x is less than 90%, the permittee shall evaluate compliance with the NO_x and CO emission limitations by calculating NO_x and CO emission rates expressed in lbs/hr and NO_x and CO emission

factors expressed in g/bhp-hr. The calculations shall be based on the measured O_2 , CO and NO_x concentrations and the calculation procedures provided in the test protocol described below. If the percent conversion is less than 90%, the converter catalyst shall be either cleaned or replaced.

- (f) Test Protocol. A testing protocol shall be developed, documented, and used for all tests. At a minimum, the following topics shall be addressed in the protocol:
- (f.1) Description of sampling locations and sample gathering procedures that result in representative and reproducible samples,
- (f.2) Calibration and operation procedures for the analyzers,
- (f.3) Methods used to determine the horsepower, stack gas flow, temperature, and other parameters as necessary to demonstrate compliance, and
- (f.4) Calculations and other information necessary to convert the analyzer output to the units of the limitations.

The test protocol shall be made available to the Executive Secretary upon request. If the Executive Secretary determines that the protocol does not adequately address the minimum requirements listed above, or that the protocol does not provide sufficient assurance that the test results are adequate for demonstrating compliance with the limitation, the Executive Secretary may require the permittee to modify the protocol.

II.B.6.a.2 **Recordkeeping**:

Results of monitoring shall be maintained as described in Provision I.S.1 of

this permit.

II.B.6.a.3 **Reporting**:

In addition to the reporting requirements in Section I of this permit, the permittee shall submit an annual report by January 31, for the previous year. The annual report shall include the following information:

- 1) The raw test data and any trends apparent in the data for NO_x and CO_x .
- 2) Calibrations of oxygen sensors and portable monitors,
- 3) Occurrence and duration of downtime, start-up or malfunction in the operation of the engine or catalyst and corrective action taken, and
- 4) Estimation of excess emissions.

II.B.6.b Visible emissions shall be no greater than 20 percent opacity. [Authority granted under

R307-401-6(1) [BACT]; condition originated in DAQE-0220-93]

Monitoring: In lieu of monitoring via visible emission observations, fuel usage shall be

monitored to demonstrate that only pipeline-quality natural gas is used as

fuel.

II.B.6.b.2 **Recordkeeping**: Results of monitoring shall be maintained as described in Provision I.S.1 of

this permit.

II.B.6.b.1

II.B.6.b.3	Reporting:	There are no reporting requirements for this provision except those specified in Section I of this permit.
II.B.7	Conditions on Regeneration H	Ieater (H1):
II.B.7.a	Visible emissions shall be no greater than 20 percent opacity. [Authority granted under R307-201-1(1); condition originated in DAQE-0220-93]	
II.B.7.a.1	Monitoring:	In lieu of monitoring via visible emission observations, fuel usage shall be monitored to demonstrate that only pipeline-quality natural gas is used as fuel.
II.B.7.a.2	Recordkeeping:	Results of monitoring shall be maintained as described in Provision I.S.1 of this permit.
II.B.7.a.3	Reporting:	There are no reporting requirements for this provision except those specified in Section I of this permit.
II.B.8	Conditions on Stabilizer Heater (H2):	
II.B.8.a	Visible emissions shall be no greater than 40 percent opacity. [Authority granted under R307-305-1(1); condition originated in R307-305-1(1)]	
II.B.8.a.1	Monitoring:	In lieu of monitoring via visible emission observations, fuel usage shall be monitored to demonstrate that only pipeline-quality natural gas is used as fuel.
II.B.8.a.2	Recordkeeping:	Results of monitoring shall be maintained as described in Provision I.S.1 of this permit.
II.B.8.a.3	Reporting:	There are no reporting requirements for this provision except those specified in Section I of this permit.
II.B.9	Conditions on Glycol (Space) Heater (H3):	
II.B.9.a	Visible emissions shall be no greater than 40 percent opacity. [Authority granted under R307-305-1(1); condition originated in R307-305-1(1)]	
II.B.9.a.1	Monitoring:	In lieu of monitoring via visible emission observations, fuel usage shall be monitored to demonstrate that only pipeline-quality natural gas is used as fuel.
II.B.9.a.2	Recordkeeping:	Results of monitoring shall be maintained as described in Provision I.S.1 of this permit.
II.B.9.a.3	Reporting:	There are no reporting requirements for this provision except those specified in Section I of this permit.
II.B.10	Conditions on Production Heater Treater (H4):	
II.B.10.a		e no greater than 40 percent opacity. [Authority granted under n originated in R307-305-1(1)]

II.B.10.a.1	Monitoring:	In lieu of monitoring via visible emission observations, fuel usage shall be monitored to demonstrate that only pipeline-quality natural gas is used as fuel.
II.B.10.a.2	Recordkeeping:	Results of monitoring shall be maintained as described in Provision I.S.1 of this permit.
II.B.10.a.3	Reporting:	There are no reporting requirements for this provision except those specified in Section I of this permit.
II.B.11	Conditions on Test Heater Tro	eater (H5):
II.B.11.a		e no greater than 40 percent opacity. [Authority granted under a originated in R307-305-1(1)]
II.B.11.a.1	Monitoring:	In lieu of monitoring via visible emission observations, fuel usage shall be monitored to demonstrate that only pipeline-quality natural gas is used as fuel.
II.B.11.a.2	Recordkeeping:	Results of monitoring shall be maintained as described in Provision I.S.1 of this permit.
II.B.11.a.3	Reporting:	There are no reporting requirements for this provision except those specified in Section I of this permit.
II.B.12	Conditions on Line Heater (H	<u>6):</u>
II.B.12.a		e no greater than 40 percent opacity. [Authority granted under a originated in R307-305-1(1)]
II.B.12.a.1	Monitoring:	In lieu of monitoring via visible emission observations, fuel usage shall be monitored to demonstrate that only pipeline-quality natural gas is used as fuel.
II.B.12.a.2	Recordkeeping:	Results of monitoring shall be maintained as described in Provision I.S.1 of this permit.
II.B.12.a.3	Reporting:	There are no reporting requirements for this provision except those specified in Section I of this permit.
II.B.13	Conditions on Inlet Crude He	ater (H7):
II.B.13.a		e no greater than 40 percent opacity. [Authority granted under a originated in R307-305-1(1)]
II.B.13.a.1	Monitoring:	In lieu of monitoring via visible emission observations, fuel usage shall be monitored to demonstrate that only pipeline-quality natural gas is used as fuel.
II.B.13.a.2	Recordkeeping:	Results of monitoring shall be maintained as described in Provision I.S.1 of this permit.

II.B.13.a.3 **Reporting**: There are no reporting requirements for this provision except those

specified in Section I of this permit.

II.C. **Emissions Trading.** (R307-415-6a(10))

Not applicable to this source.

II.D. **Alternative Operating Scenarios.** (R307-415-6a(9))

Not applicable to this source.

Section III: PERMIT SHIELD

III.A. A permit shield was not granted for any specific requirements.

Section IV: ACID RAIN PROVISIONS.

IV.A. This source is not subject to Title IV. This section is not applicable.

REVIEWER COMMENTS

This operating permit incorporates all applicable requirements contained in the following documents:

DAQE-0220-93 dated March 31, 1993

1: Comment on an item originating in DAQE-0220-93 regarding permitted source (Source-wide):

Use of Natural Gas Only: Condition 10 of the subject approval order requires a new AO if any fuel other than natural gas is used as a primary fuel. If another fuel were to be used a permit modification would be required by rule, therefore the condition has not been carried over into the Title V permit. [Comment last updated on 3/27/2000]

2: Comment on an item originating in DAQE-0220-93 regarding permitted source (Source-wide):

Training Requirements, Subsumed: Condition 4 of the subject approval order states that all employees who operate equipment that produces emissions to the air shall receive proper training. This condition is subsumed by the permittee's responsibility to adhere to all other conditions of this permit, employees who operate and/or control this equipment must be trained in order to meet the monitoring, recordkeeping, and reporting requirements of this permit. [Comment last updated on 3/28/2000]

3: Comment on an item originating in DAQE-0220-93 regarding permitted source (Source-wide):

Applicability of Condition 11: Condition 11 of the subject approval order states that BACT for those portions of the natural gas processing plant that have been relocated to Utah will be equivalent to the requirements of 40 CFR 60.482-1(a), (b), (d), and 60.482-2 through 60.482-9, except as provided in 60.633 and options or requirements referencing closed vent systems with control devices and 60.482-10. The equipment relocated to Utah include the mole sieve dehydrator, gas/gas exchanger, turbo-expander, and deethanizing column (see Attachment I of correspondence from B.F. Ballard dated September 22, 1987). These equipment have been grouped together under the emission unit Cryogenic Plant. [Comment last updated on 7/27/2000]

4: Comment on an item originating in DAQE-0220-93 regarding Compressors 9, 10, and 11 (Unit C9, 10, and 11):

Catalytic Converter Performance Testing: Condition 8B of the subject approval requires the permittee to maintain the oxygen content at the inlet to the catalytic converter in the range of 1000 to 5000 ppmv with a continuous sensor or automatic air/fuel controller. The permittee will use an automatic air/fuel controller (see Title V application) to maintain the oxygen content in the range of 1000 to 5000 ppmv. If the permittee does not use an automatic air/fuel controller setup to maintain the oxygen content in the range of 1000 to 5000 ppmv while the affected emission unit is operating, the permittee is not in compliance with the applicable emission limitations of condition 7 of the subject approval order. Operation of the automatic air/fuel controller will be checked during the catalytic converter performance test.

Condition 8D of the subject approval states that the converter outlet concentration of CO shall not exceed 800 ppmv (3 grams/bhp-hr) while simultaneously maintaining a 90% conversion of NO_x . Based on previous catalytic converter performance testing results, and engine and catalytic converter performance, meeting the CO concentration and NO_x conversion thresholds will ensure compliance with the applicable emission limits in condition 7 of the subject approval order. However, if the CO concentration and NO_x conversion thresholds are not met, the affected emission unit may still comply with the applicable emission limitations in condition 7. Therefore, the operating permit requires the permittee to demonstrate compliance directly with the applicable emission limits in condition 7 if the converter outlet concentration of CO is greater than 800 ppmv (3 grams/bhp-hr) and/or the NO_x conversion is less than 90%. This will require the permittee to conduct additional calculations.

Item 4 of Condition 8E of the subject approval order requires the permittee to submit an annual report which lists exceedances in the NO_x and CO emission limitations. Section I.S.2 of this permit requires the permittee to report all deviations from permit conditions promptly (within 7 days) and in a semi-annual report. Item 4 of the subject approval order has been subsumed by the requirements of Section I.S.2. The permittee will be required to submit an annual report which includes the information in items 1, 2, 3 and 5 of condition 8E of the subject approval order. [Comment last updated on 10/10/2000]